

ABSTRACT

A slotted pin tool, a delivery system containing the pin tool, a substrate for use in the system and methods using the pin tool and system are provided. The slotted pin tool contains a plurality of pins

5 having slotted ends designed to fit around each loci of material deposited on a surface, such as a microarray, without contacting any of the deposited material. Sample is delivered by contacting the pin tool with the surface; the amount delivered is proportional to the velocity of the pin tool as it contacts the surface or the velocity of the liquid when

10 movement of the pin is halted.